MEL COHN - PARIS

March 22, 1952.

Dear Cohn-

Thank you for your prompt and informative letter. It will take some time to assimilate fully, but in any case, I can respond with very little more than was included in my first letter and in my earlier correspondence with Jacques- perhaps he might dig this out for you as an equivalent in volume, if not in quality, to your summary. Your suggestion to exchange mss. bearing on problems of mutual interest is a good one. In compliance, I must admit to a general paper presented at the Genetics Society last Fall, and to be included in "Genetics in the 20th Century", to be published soon by MacMillan. Unfortunately, Stanier now has my only copy, but there is nothing new in it except a surprising convergence of attitudes.

One specific detail in your letter provokes some comment: the non-utilization of homomorphous arabinosides by β-D-galactosidase. Mr, Snyder, in Link's lab just recently prepared some o-nitrophenyl-α-L-arabopyranoside to test just this point. My enzyme prep. from K-12 has an appreciable activity on this compound: V_{max} about 1:6 compared to ONPG, K_s about M/250, so that heavy concentrations must be used to saturate the enzyme (in m/50 Na-Phosphate buffer, 7.5). There are any number of possible reasons for this discrepancy, but the easiest way to clear it up would be for you test ONPA yourself. Unfortunately our supply is (as usual) very limited, and the enclosed sample is a substantial part of that available now; however, it should more than suffice for the immediate purpose.

Your remarks on the thiogalactosides are extremely provocative: if you could perchance spare a reasonably small quantity of any actively inhibitory one, I would appreciate the favor. I might add that I had reached the same conclusion about the separability of enzyme-combination and inductivity from the behavior of the Lac_1 mutant: this responds to N-Butyl gal. but not to lactose; however, the lactase once formed acts quite as usual on lactose. By the way, I hear that Ryan is isolating mutants "induced" with galactosides. Mrs. Lederberg and I found several years ago that Lac- mutants repeatedly cropped up in butyl-galactoside broth, but assumed this was due to adverse selection of high internal BuOH in Lac+ cells. Is there evidence to rule out selection?

Roberts and his group of biophysicists at Carnegie Terrestrial Magnetism (Washington) were delving pretty deeply into lactase adaptation, but had to quit for war work. They had some interesting material on adaptation in E. coli B which goes faster in washed suspensions than with most strains.

Sincerely,

Joshua Lederberg